## How We Turned MI-Connection Around

Turning MI-Connection around was a herculean task. First, we had to find a way to stem the outflow of cash. To do so, we immediately sought to renegotiate our contracts. This step was extraordinarily difficult because the network had no charter that discussed how we should proceed. What's more, we were very limited in how we could renegotiate because MI-Connection is a government agency. As such, we were required to abide by a number of restrictions. For instance, there were strict limits to how we could borrow funding. Essentially, MI-Connection was barred from every traditional method that the private sector uses to turn a company around.

Second, we had to make sure we had the right people working to solve these complex problems. A strong team is essential in any turnaround. We were fortunate to have a phenomenal staff of hard-working, intelligent people running the network. When I began my tenure at MI-Connection, I focused on recruiting all of the top talent in the area.

We also had to make sure that MI-Connection had a specific objective or goal. Early on, MI-Connection did not have a focus. There was no common set of objectives from a business standpoint. Some officials wanted to get into the broadband business to provide better services to constituents regardless of the system's economic viability. Another group saw broadband as a way for the communities to generate additional revenue. A third group saw the network as a solution to their dissatisfaction with existing service options. And still others believed the municipal system would be good for economic development and would help attract businesses and employers.

While a broadband network has the potential to accomplish many of these objectives, business models must be properly structured and deployed. And local government must buy in and support the objective.

Finally, we had to make sure that there was a clear end game for the network. MI-Connection had no clear exit strategy. As such, one of my top priorities as Chairman was to develop an end game strategy for the network. After careful consideration, we determined that the best course of action would be to stem the bleeding of the network and make the network more appealing for prospective buyers. Once we were able to develop a clear objective and devise an exit strategy, we were able to take the necessary steps to turn the network around and accomplish our goals.

We have made substantial progress towards self-sufficiency, but MI-Connection is not yet out of the woods. We have reduced the network's debt, lowered expenses, and streamlined the network's management structure. These changes have made the network more viable, but they are not lasting solutions. Our policies are designed to make the network more attractive to prospective private buyers, not to foster long-term sustainability as a municipally owned and operated broadband network. Our management's stated goal has always been to turn the network around and divest Davidson and Mooresville of MI-Connection as soon as it is financially prudent to do so. We intend to accomplish this goal in the next five years.

## Advice and Best Practices

In light of my experience with MI-Connection, I respectfully offer policy makers the following advice about how best to approach the issue of municipal broadband.

1. **Municipal networks should be community networks.** Make sure proposals pass the broad community consensus test. I went back and interviewed everybody involved in MI-Connection. For the first few months, the towns were meeting clandestinely. These kinds of decisions must be vetted in the light of day. They must be scrutinized to make sure you have support going in beforehand.
2. **Don't just believe the consultants.** When the elected officials were engaged in the planning phase, they hired outside counsel and lawyers who had fairly large fee structures, which generated thousands in income for their services. More importantly, those individuals had a vested interest in running up fees and making this go through. Their financial models had so many assumptions in them that no one stopped to say, "Is this really the right thing to do?" You can plug in an assumption to any business model

and make it work. The real question is what will happen in the real world, and do you have the skill set and discernment to determine whether this is the right thing and whether it will be successful.

3. **"Stick to your knitting."** In the Carolinas we have a saying that originates from the states' textile companies: "Stick to your knitting." If you don't have the expertise, you better find people who are capable of doing it or don't do it at all. Municipalities should stick to what they can do effectively and leave to the experts that which they do expertly.
4. **Identify clear objectives and always have an exit strategy.** If you're going to enter the broadband space, know why you're getting into it and how you're getting out.

## Perspectives from Subject Matter Experts

## 7.8 Municipal Broadband: A Financial Perspective

**Anna-Maria Kovacs,** Ph.D., CFA, Visiting Senior Policy Scholar at Georgetown University's Center for Business and Public Policy[1133]

Any broadband network has to be well-funded and well-run. That takes deep pockets, scale economies, and experience in network construction and operations as well as in marketing. While municipalities can obtain funding via taxes, tax dollars are limited. Municipalities are unlikely to have either scale in purchasing telecommunications equipment or experience in constructing and running broadband networks. Thus, when a municipality considers building out a broadband network with tax dollars, the first question has to be: "Is there an alternative way to get a private company to do this?"

That is a vital question, because if there is no business case for a private company, it is even less likely that there is a business case for the municipality to build out. If the town decides to proceed anyway, its taxpayers need to understand that they will be paying indefinitely for a project whose benefits are intangible. Were the benefits tangible, they could be incorporated into a viable business case that would attract private investment.

If the community already has at least one broadband provider and is considering funding a competitor, the equation becomes even more complex. Not only must the business case be realistic about the likelihood of winning customers away from the incumbent, it must be realistic about the impact on the incumbent and the incumbent's reactions. Will the incumbent respond by upgrading its existing network and improving service? That's good for the community, but makes it even more likely that the municipal network will be unprofitable and a drain on tax dollars. Conversely, will the incumbent lose market share and leave the community? That may help the municipal network's profitability, but is not necessarily helpful to the community as a whole.

As the ACLP report shows, there are all too many examples of municipalities who have spent taxpayer funds only to discover that the job is more complex or the financials more precarious than they expected. No town wants to see its credit rating damaged, as was Burlington, Vermont's. Nor is it ideal for a city to find itself selling a network in which it invested $39,000,000 for one dollar, as did Provo, Utah.

Fortunately, there are other options for communities that are creative and flexible. Kansas City attracted Google's gigabit network via concessions that include speeding permitting, providing rights of way, and being flexible about build-out requirements. Austin, Texas, has extended flexibility to incumbents as well as to Google. As a result, Austin has persuaded three privately capitalized companies—AT&T, Google, and Grande Communications—to either build or upgrade networks to gigabit speed. Such private solutions allow the community to enjoy the benefits of broadband without saddling the taxpayers with the cost and risk.

1133  Anna-Maria Kovacs is a Visiting Senior Policy Scholar at Georgetown University's Center for Business and Public Policy. She has covered the communications industry for more than three decades as a financial analyst and consultant.

## Questions That Communities Should Ask

A community that wants a new or upgraded broadband network needs to ask a series of questions, including:

- What network(s) does the community already have? What does it need today? What will it need over time?
- What will it take to make a broadband network—either private or public—a viable business in this community?
- What is the business case under at least three scenarios: realistic, best-case, and worst-case?
  - What will the capital costs be upfront?
  - What will ongoing operating costs be?
  - Where are revenues coming from? Is the incremental revenue from this project enough to cover costs of operations and capital, or will it require continued taxpayer funding?
- Is this a viable business case for private capital?
- If there is no business case for private investment, why is there a business case for the municipality?
- What can the community do to make this project more attractive to private capital? What can the town do to facilitate the build-out? To lower cost and risk for the provider? To ensure a baseline of revenues?
- If there is a private-public partnership, how are the costs, the risks, and the benefits divided?
- How much is the community willing to lose on this network and for how long? How long will taxpayers be willing to support the network?
- What alternative uses of the taxes being raised for the network is the community forgoing?
- What will the impact of additional debt be on cost of the community's other debt under best-case and worst-case scenarios?
- What is the exit strategy?
- If there is an incumbent, how will this new competition impact the incumbent—best case and worst case? Is the incumbent likely to exit the market, thus eliminating hoped-for competition?

In the vast majority of communities in the U.S., private capital has already built at least one broadband network, and in most of the U.S. it has built several, wired and wireless. For those communities, the Austin, Texas, solution of working with the private entities is both practical and greatly preferable.

Even those communities that still lack a broadband network are best served by finding a private provider. If there is one thing that the examples in ACLP's study show, it is that operating a broadband network is not an amateur sport. It requires capital, experience in operations and marketing, and scale. Only as a last resort should a community build its own network, and even then only if community leaders are certain that the taxpayers are willing to support the municipal network long-term. Far preferable is a flexible and creative approach that makes the project appealing for an experienced, privately capitalized provider.

## 7.9 Government-Owned Broadband Networks: The View from Utah

**Royce Van Tassell,** Vice President, Utah Taxpayers Association

Until recently, I hadn't seen the show *Sports Night* since ABC broadcast it from 1998 to 2000. Styled as a half-hour comedy, it broke with many conventions, chiefly by dealing in serious and personal ways with the war on drugs, sexual harassment, doping, and the inherent conflicts between quality programming and attracting an audience.

The characters are warm and engaging, the dialog quick and witty, but many of the props seem remarkably dated. The jeans have that late 1990' "baggy with a belt" look (think Girbaud). My wife hates the hairstyle of every woman on the show (though I'm guessing she sported something similar in the late 1990s).

And then there's the technology. Set on a fictional sports news studio, hundreds of videocassettes are lying around. Cathode ray tube monitors (CRTs) take up half of ever desk. They use fax machines, but cell phones are almost nonexistent. Only the resident nerd uses e-mail (think "You've got mail!").

No newsroom, or office of any kind today, could survive using such outdated technology. But in the late 1990s, our collective expectations for communications made all these tools the norm.

## Technology Has Changed Our Expectations

Even as ABC was broadcasting *Sports Night,* Global Crossing, Comcast, AT&T, Nokia and Blackberry (among others) were developing and deploying the technology that makes "Sports Night's" props look quaint today. Now the United States has more smartphones than people. Debates over disposing of CRTs mostly ended about five years ago. DVRs, Roku, Apple TV and Chromecast have already replaced the DVDs that replaced video cassettes.

Technology breakthroughs changed our expectations. In one form or another, all of today's widespread technologies were available in 1998, if you were willing and able to pay for it. Recall that in the 1980s some superstars flaunted their wealth by casually pressing bricklike cell phones to their ear. But the average American, even the average American business, couldn't afford the luxuries in 1998 that we take for granted today, so they didn't expect them.

## Cities Get Impatient

Not everyone has been so patient. In scores of cities across the country, mayors and city councils have decided that their cities, their constituents, "need" even faster communications technology now. To meet these "needs," they have built, or are considering building, their own municipal telecom systems.

These cities want to change the expectations of the customers in their area; they sincerely believe that the adage, "if you build it, they will come," applies to telecommunications. Hence, the current trend is to build municipal telecom systems with "fiber to the home" (FTTH).

FTTH allows for blazing fast speeds. Municipal networks in Tennessee, Virginia and Utah now offer speeds of 1 gigabyte per second (gig), and Google Fiber offers a similar gig product in Kansas City, Provo, and Austin. A gig connection allows the user to stream five HD movies simultaneously, and still be able to check e-mail and surf the web without waiting. No doubt, a gig is cool.

Cool as that speed is, municipal telecom systems are also expensive and risky. Quite a few cities have built their own system, only to find large consistent financial losses forcing them to sell the network for pennies on the dollar. And many of the municipal systems touted as "successful" would be financial failures in the private sector. Barely breaking even on the operations side does not lure many investors.

## Why Do Municipal Telecom Systems Struggle?

Why is it so difficult to make these systems work? Every analyst offers a different opinion. Some blame elected officials unwilling to spend enough. Others blame Luddite state policy makers who don't recognize that municipal telecom is the only way for their cities to grow. Still others blame competitive responses from incumbent telecom and cable providers.

Undoubtedly all of these factors play some part. For my part, I think two factors are decisive. First, the governance structure of municipal telecom systems virtually guarantees that their boards of directors will know little if anything about how to succeed in the telecom sphere. Second, government of any kind has a very difficult time managing the risks of a highly competitive business.

## Who Governs Municipal Telecom Systems?

When a city builds its own telecom system, they need to establish a governing board, and politics nearly always trumps business acumen in selecting those board members. They choose the mayor, members of the city council, the city manager, the city's finance director and other prominent political figures.

These people are all good at what they do, but none of them was selected because they know how to succeed in the telecom business. The ability to win an election signifies nothing about that person's ability to effectively govern or manage a telecom system. In nearly every case, these elected officials are successful in what they do, be that a local activist, philanthropist, small business owner, etc.

But just as it's unrealistic to assume a successful accountant will succeed as a school principal, it's unrealistic to assume that an elected official will succeed at managing a telecom venture. Accountants aren't principals. Mayors aren't heads of telecom companies.

## Governments Have Trouble Managing Risk

Another big reason municipal telecom systems struggle is that governments have trouble managing risks. The transparent plodding nature of government combines with the lack of market feedback to give elected officials precious little meaningful feedback about the risks of various options.

Evaluating whether to repave a street, extend a sewer line, or build a new water tower relies almost exclusively on variables City Hall has readily at hand. They know how many building permits they have approved, and the number of cars and water and sewer usage per home are quite stable. The technologies and costs for building, maintaining and operating this infrastructure are similarly predictable.

By contrast, telecommunications absorbs multiple tectonic shifts every decade. Going back to my experience watching *Sports Night* recently, recall that cell phones were unusual, while faxes remained standard. Since ABC pulled *Sports Night,* not only have cell phones become ubiquitous, but several cell phone manufacturers have come and gone as "kings" of cell phones. Nokia gave way to Motorola, which Blackberry crushed, only to be outdone by Apple. While Apple maintains a substantial part of the cell phone market, HTC and LG knocked Apple off its perch, and Samsung is now ascendant.

And that's just in the handset market. Advances in compression technology allow DSL, coax and wireless to carry volumes of data analysts once thought only fiber could carry. Finding a balance in the midst of these technological and consumer preference changes requires a degree of risk-taking to which politics simply isn't well suited.

## What Direction Next?

In the ongoing debate over municipal telecom, proponents and opponents of municipal telecom relate competing anecdotes of successful or failing municipal telecom systems. Proponents point to Chattanooga, Tennessee, and Danville, Virginia, while opponents (myself included) point to Groton, Connecticut, Utah's UTOPIA (the Utah Telecommunications Open Infrastructure Agency), or Alameda, California.

Proponents note the benefits of speed, while opponents emphasize that the private sector is more than willing to provide all the speed anyone is willing to pay for. Just like 1980s superstars paid a hefty price to carry their brick-like cell phones, anyone who wants the speed of a fiber optic cable into their home or business can have it, if they're willing to pay the price. No matter who builds these telecom systems, they are expensive.

Building and operating these systems means tearing up roads, digging trenches, laying conduit, pulling fiber, installing and maintaining electronics at the ends of the fibers, providing adequate heating and cooling for the electronics, selling connections to individual homeowners and businesses, dropping and installing lines and electronics from the street to homes and businesses, managing network traffic, etc. If the system offers video, a head-end is necessary, plus purchasing the rights to sell bundles of channels. And public or private systems need a lot of employees to do all of this. When cities build these systems, the real effect is for some taxpayers to subsidize other taxpayers' telecom "needs."

Despite all these risks, dozens of private telecom companies have invested hundreds of billions of dollars into discovering, even creating, consumer preferences, and then meeting them. When cities build and operate municipal telecom systems, political considerations inevitably influence sound business decisions. And only happenstance will align political considerations with the business decisions necessary to succeed amidst the constant changes of communications technology.

Recall that in its infancy, cell phone technology was incredibly expensive. That bricklike cell phone, which was more status symbol than phone, cost thousands of dollars. As private companies have invested billions of dollars, the cost of cell phones has plummeted. The same will continue with telecom technology.

## 7.10 Crafting Effective Strategies for Effectively Allocating Municipal Resources

**By Joseph S. Miller,** President and CEO, Washington Technology Project, LLC

Cities across the country are facing increasing inequality on a number of fronts—income, housing, education, healthcare, etc.—and those inequalities should inform policy makers' decisions regarding their allocation of surplus resources, including in the technology arena.

Minorities comprise an ever-increasing majority of the U.S. population, yet Blacks and Latinos continue to struggle for inclusion in the technology sector, both as entrepreneurs and as employees of companies on the leading edge of innovation. These disparities are, to some extent, caused by active, deliberate discrimination by venture capitalists and employers. Achievement gaps in science, technology, engineering and mathematics (STEM) fields also contribute to these trends. While some local governments have made significant investments to alleviate them, additional allocations are desperately needed to improve STEM achievement rates to address the array of out-of-school factors that contribute to STEM disparities.[1134]

All cities have limited resources. In the context of calls for technology expenditures, public officials have to holistically assess such calls in view of other social priorities. Are poverty rates increasing or decreasing? Is healthcare spending sufficient? Is affordable housing available? Is education adequately funded? The answers to these questions matter. Cities like my native hometown of New York have already invested hundreds of millions of dollars to attract technology-based businesses and top tech talent from other regions. New York City has invested heavily over the past five years to build its profile as a world-class technology hub. Notable among these initiatives is the Applied Sciences NYC initiative—a network of "top tier applied sciences and engineering campuses."[1135]

Paradoxically, New York City remains among the top 10 cities in income inequality nationwide. In 2012, according to its analysis of U.S. Census data, Brookings found New York City households just cracking the top 5% in income ($226,675) earn 13.2 times as much as households earning income in the 20th percentile ($17,119).[1136]

If academic achievement gaps are any guide, income inequality in New York City will continue to persist, as many blacks and Latinos in particular will not have the skills to compete for high paying jobs in the city. New York City's black or Hispanic students currently in grades 3 through 8 continue to underperform academically, compared to their Asian or White counterparts.[1137] In 2013, 61.4% of New York City Asian students and 50.1% of White students in grades 3 through 8 performed at or above proficiency on Common Core tests in

1134 *See* David C. Berliner, *Poverty and Potential: Out-of-School Factors and School Success* (Education Public Interest Center: 2009) *available at* http://nepc.colorado.edu/publication/poverty-and-potential.

1135 Applied Sciences NYC website *available at* http://www.nycedc.com/project/applied-sciences-nyc.

1136 http://www.brookings.edu/research/papers/2014/02/cities-unequal-berube

1137 *See* New York City Department of Education, *2013 New York State Common Core Test Results: New York City Grades 3 – 8* (New York City Department of Education: 2013) available athttp://schools.nyc.gov/NR/rdonlyres/8F6125CE-0AF1-4F6F-A109-34F7C27006CA/0/2013MathELAResultsSummary.pdf.

math in New York City, compared to 15.3% of Black students and 18.6% of Hispanic students in the same grades.[1138]

In addition to these pressing social problems, pervasive broadband adoption and usage disparities persist. While access to high speed networks continues to pose a problem in certain remote and rural areas, numerous factors not related to a lack of broadband infrastructure contribute to low broadband adoption rates.[1139] According to a 2013 National Telecommunications and Information Administration report, just 55% of African American and 56% of Hispanic households have adopted broadband, compared to 74% of their White and 81% of their Asian American counterparts.[1140] Forty-three percent of households with incomes of $25,000 or less have adopted broadband, compared to 84% of households with incomes between $50,000 and $74,999.[1141]

Those who have not adopted broadband cite a variety of reasons. The top three reasons include "lack of interest/perceived relevance" (48%), "too expensive" (28%), and "no computer or computer inadequate" (13%).[1142] Notably, none of these factors are related to a lack of broadband infrastructure. In fact, just one percent cited a lack of access to broadband as their primary reason for not adopting broadband (although 2% of rural households stated they have not adopted broadband because it is not available in their areas).[1143]

## Conclusion

Municipalities across the nation are grappling with the question of how to allocate scarce resources to address the myriad pressing economic and social issues facing their residents. Many cities are also grappling with the question of how to allocate scarce resources to reduce the socioeconomic disparities affecting large swaths their citizens. Other jurisdictions, such as New York City, boast a surplus of resources and have the luxury of being able to focus on growing their local economies. However, even many of these jurisdictions tend to focus too heavily on making investments to assist those who have already done well, rather than funding programs to alleviate barriers to African Americans, Latinos and other under-adopting demographics being full participants in the technology sector.

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1138 *Id.*

1139 National Telecommunications and Information Administration, *Exploring the Digital Nation: America's Emerging Online Experience* (Department of Commerce, June 2013) *available* at http://www.ntia.doc.gov/files/ntia/publications/exploring_the_digital_nation_-_americas_emerging_online_experience.pdf

1140 *Id.* at 26.

1141 *Id.*

1142 *Id.* at 36.

1143 *Id.*

# Appendix I: Notes to Table 4.1

1 *See EPB Increasing Fiber Optic Speeds; Lowering Customer Prices*, Sept. 17, 2013, Chattanoogan.com, *available at* http://www.chattanoogan.com/2013/9/17/259342/EPB-Increasing-Fiber-Optic-Speeds.aspx.

2 *See* Brian Fung, *How Chattanooga beat Google Fiber by half a decade*, Sept. 17, 2013, Washington Post Switch Blog, *available at* http://www.washingtonpost.com/blogs/the-switch/wp/2013/09/17/how-chattanooga-beat-google-fiber-by-half-a-decade/.

3 *See* Kevin E. McCarthy, *Chattanooga High Speed Broadband Initiative*, Dec. 14, 2012, Research Report 2012-R-0515, Office of Legislative Research, Connecticut General Assembly, *available at* http://www.cga.ct.gov/2012/rpt/2012-R-0515.htm ("*Chattanooga High Speed Broadband Initiative*").

4 This figure includes three separate loans: (1) a $50 million loan from the municipality's electric division of the municipal utility to establish the utility's fiber optic division, *Id.* (2) a $19.5 million loan to pay off these electrical division loans. *See Senior Management Report & Financial Information 2012*, at p. 45, EPB (Sept. 2012), *available at* https://www.epb.net/flash/annual-reports/2012/assets/uploads/EPB-Financials.pdf ("*Senior Management Report & Financial Information 2012*"). (3) A $5 million line of credit secured by revenues and assets, *Id.*

5 *Broadband at the Speed of Light* at p. 38.

6 *See EPB Senior Management & Financial Information 2013*, Annual Report 2013, at p. 17, *available at* https://www.epb.net/flash/annual-reports/2013/downloads/EPB_Financials_2013.pdf ("*EPB Senior Management & Financial Information 2013*").

7 *Id.* at p. 20.

8 *Id.*

9 *Id.*

10 *See* James Shea, *Tobacco Dollars Extend Broadband for Southwest Virginia*, Dec. 8, 2013, TriCities.com, *available at* http://www.tricities.com/news/local/article_ea52b42c-6083-11e3-8d56-0019bb30f31a.html ("*Tobacco Dollars Extend Broadband for Southwest Virginia*").

11 *See* Press Release, *BVU Awarded More than 28 Million Dollars in Grant*, July 2, 2013, BVU, *available at* http://www.bvu-optinet.com/data_elements/press_release_DMME_Grant_2010.pdf

12 *Broadband at the Speed of Light* at p. 3. *See also City of Bristol Audited Financial Statement*, at p. 61, June 30, 2012, *available at* http://www.bristolva.org/DocumentCenter/View/246.

13 OptiNet originally borrowed this amount from BVU's electric division. The amount was eventually reconstituted as an investment. *Broadband at the Speed of Light* at p. 7.

14 This figure includes: $50.4 million in federal grant, including a federal stimulus award, and about $40 million in state grants. *Broadband at the Speed of Light* p. 6. *See also* Susan Kendall, *Moody's Assigns A2 Issuer Rating to BVU Authority (VA)*, Nov. 9, 2010, Moody's, *available at* http://www.moodys.com/research/MOODYS-ASSIGNS-A2-ISSUER-RATING-TO-BVU-AUTHORITY-VA-Rating-Update--RU_16711855 ("*Moody's Assigns A2 Issuer Rating to BVU*"); *Funding Revitalization and Innovation in the Tobacco Region*, at p. 3, Virginia Tobacco Commission (June 2011), *available at* http://www.tic.virginia.gov/images/VA%20Business%20Magazine%20Ads/Broadband/June%202011%20Virginia%20Business%20Magazine%20Broadband.pdf; *Tobacco Dollars Extend Broadband for Southwest Virginia.*

15 There was no direct cross-subsidization, but certain transactions were dubious. For example, while Virginia's state Corporation Commission was examining the network's cost allocation model, OptiNet booked $23.7 million in funds from the Electric division as debt. Once the model was approved, OptiNet re-characterized the funds as an investment. *Broadband at the Speed of Light* p. 7.

16 Information was not made publically available; attempts to contact BVU Authority's CFO, Stacey Pomrenke, did not receive a response.

17 *Id.*

18 *Id.*

19 *Id.*

20 *See* Richard Burgess, *LUS Announces Number of Subscribers*, May 29, 2013, The Advocate, *available at* http://theadvocate.com/news/6038657-123/lus-announces-number-of-subscribers.

21 *See* Ricky Jervis, *Louisiana City Blazes High-Speed Web Trail*, Feb. 5, 2012, USA Today, *available at* http://usatoday30.usatoday.com/news/nation/story/2012-02-01/broadband-telecom-lafayette/52920278/1.

22 *See Utilities Revenue Refunding Bond, Series 2012, City of Lafayette Louisiana,* at p. 42, Electronic Municipal Market Access, Municipal Securities Rulemaking Board (2010), *available at* http://emma.msrb.org/EA494408-EA384388-EA781227.pdf ("*Utilities Revenue Refunding Bond, Series 2012, City of Lafayette Louisiana*"). *See also* Dan Aschenbach, *Moody's Assigns A1 to Lafayette, Louisiana Combined Utility Revenue Bonds; Outlook Stable*, Nov. 26, 2012, Moody's, *available at* http://www.moodys.com/research/Moodys-Assigns-A1-to-Lafayette-Louisiana-Combined-Utility-Revenue-Bonds-New-Issue--NIR_900823593 ("*Moody's Assigns A1 to Lafayette, Louisiana*").

23 *Utilities Revenue Refunding Bond, Series 2012, City of Lafayette Louisiana* at p. 45.

24 *Broadband at the Speed of Light* at p. 23.

25 *See* Alex Labat, *LUS CPA Explains Fiber* Audit, May 16, 2013, KATC.com, *available at* http://www.katc.com/news/lus-cpa-explains-fiber-audit.

26 *Lafayette City-Parish Consolidated Government Financial Audit* at p. 26.

27 *Id.* at p. 24.

28 *See* Alex Labat, *Video: LUS CPA Explains Fiber Audit*, at 1:50, May 16, 2013, KATC.com, *available at* http://www.katc.com/news/lus-cpa-explains-fiber-audit.

29 *See City of Monticello, Mn, Telecommunications Revenue Bonds, Series 2008 (FiberNet Monticello Project), Quarterly Report for Period Ending March 31, 2013*, at p. 6, Electronic Municipal Market Access, Municipal Securities Rulemaking Board (2013), *available at* http://emma.msrb.org/EA525726-EA409489-EA806402.pdf ("*City of Monticello Quarterly Report for Period Ending March 31, 2013*").

30 *See City of Monticello, Minnesota, Telecommunications Revenue Bonds, Series 2008*, at p. 3, Electronic Municipal Market Access, Municipal Securities Rulemaking Board (June 19, 2008), *available at* http://emma.msrb.org/MS271839-MS268494-MD531794.pdf ("*City of Monticello, Minnesota, Telecommunications Revenue Bonds, Series 2008*").

31 *Id.* at p. i.

32 Roughly $3.4 million in interfund loans were made in 2011. In addition, "management report[ed] that inter-fund loans [grew] to $4.1 million [by September 2012], and expect[ed] additional monthly support of up to $60,000 through the end of fiscal 2012." *See* Tim Hennigar, *FiberNet operating transfers pass Monticello City Council vote*, Dec. 6, 2012, Monticello Times, *available at* http://monticellotimes.com/2012/12/06/fibernet-operating-transfers-pass-monticello-city-council-vote/. *See also* Andrea Stenhoff, *Moody's downgrades to A2 from Aa3 the GOULT rating for City of Monticello (MN); concurrently downgrades lease revenue debt to A3 from A1,* Sept. 28, 2012, Moody's Investors Service, *available at* http://www.moodys.com/research/Moodys-downgrades-to-A2-from-Aa3-the-GOULT-rating-for-Rating-Update--RU_900688861 ("*Moody's downgrades City of Monticello*").

33 This aid was provided by the municipality to shore up the flagging network. Transfers included: an interfund transfer of $322,527 from the general fund to FiberNet; a $3.12 million interfund transfer from the liquor fund; a $377,473 transfer from the city's street reconstruction fund; a $300,000 transfer from the DMV fund; a $200,000 transfer from the street light improvement fund; and another $125,789 transfer from the liquor fund. *Id.*

34 Annualized based on most recent quarterly data. *City of Monticello Quarterly Report for Period Ending March 31, 2013* at p. 3.

35 Annualized based on most recent quarterly data. *Id.* at p. 4.

36 *Id.*

37 Phone conversation with Monticello Assistant Finance Director, Angie McIntire. Monticello does not make any payments in lieu of taxes to the city of Monticello.

38 *See CFU launches gigabit Internet service*, May 28, 2013, Cedar Falls Times, *available at* http://www.communitynewspapergroup.com/cedar_falls_times/news/article_09479d64-c7ca-11e2-80e2-0019bb2963f4.html.

39 *See Fiber Marks a Year of Progress*, at p. 1, Cedar Falls Utilities Online (Oct. 2011), *available at*http://www.pageturnpro.com/Publications/201110/963/31612/pdf/129623134074261250_October2011web.pdf.

40 This figure encompasses both initial build-out costs (i.e., a $3 million bond issued in 1995, which came to maturity in 2008) and recent upgrades to fiber. With regard to the upgrade to fiber and expansion of the network, this was slated to cost $17 million. Cedar Falls began to borrow additional funding in 2009 for deployment purposes, borrowing $2,320,000. The city then borrowed $13,130,000 using communications utility revenue capital loan notes. *See Municipal Communications Utility of the City of Cedar Falls Iowa, $13,130,000 Communications Utility Revenue Capital Loan Notes, Series 2010*, at p. 1, Electronic Municipal Market Access, Municipal Securities Rulemaking Board (Sept. 1, 2010), *available at* http://emma.msrb.org/EA404810-EA316792-EA712527.pdf ("*Municipal Communications Utility of the City of Cedar Falls Iowa $13,130,000 Communications Utility Revenue Capital Loan Notes , Series 1995B*").

41 *See Financial Statements of the Municipal Electric, Gas, Water, and Communications Utilities of the City of Cedar Falls, Iowa, For the Year Ending Dec 31, 2011*, at p. 28, Cedar Falls Utility (March 2012), *available at* http://auditor.iowa.gov/reports/1223-0046-C000.pdf ("*Financial Statements For the Year Ending Dec 31, 2011*").

42 *See Advancing Broadband: A Foundation for Strong Rural Communities*, at p. 29, Rural Utilities Service, U.S. Dept. of Agriculture (Jan. 2011), *available at* http://www.rurdev.usda.gov/supportdocuments/RBB_report_whole-v4ForWeb.pdf.

43 See *Financial Statements of the Municipal Communications Utility of the City of Cedar Falls, Iowa, Including Independent Auditor's Report, For the Years Ended Dec. 31, 2012 and 2011*, at p. 10, Cedar Falls Utility (April 4, 2013), *available at* http://emma.msrb.org/EP760639-EP589987-EP991542.pdf.

44 *Id.* at p. 10.

45 *Id.* at p. 21.

46 *See generally id.*

47 *See* Andrew Michael Cohill, *Danville Transforms its Economy with Fiber*, Broadband Communities Online Magazine, *available at* http://www.bbpmag.com/MuniPortal/EditorsChoice/1111editorschoice.php.

48 *Id.*

49 *Id.*

50 *See State of the Art Broadband Builds Communities*, p. 69, Broadband Communities Magazine (Nov./Dec. 2012), *available at* http://bbcmag.epubxp.com/i/100321/66

51 From the federal E-rate program. Phone conversation with Jason Grey, Project Manager, nDanville.

52 *See Danville FY 2014 Adopted Budget, Telecommunications Fund*, p. 17-1, City of Danville, VA, *available at* http://www.danville-va.gov/DocumentCenter/View/9715.

53 *Id.* at p. 17-1.

54 *Id.* at p. 17-2.

55 *See* Natalie Crofts, *UTOPIA Courts Potential Investor,* Dec. 23, 2013, KSLNews.com, *available at* http://www.ksl.com/?sid=28129914.

56 Data as of June 2012. *See Utah Telecommunication Open Infrastructure Agency, Financial Statements*, p. 2, June 20, 2012, UTOPIA, *available at* https://web.archive.org/web/20130203105656/http://utopianet.org/uploads/files/177_UTOPIA_Report_2012_-_Final.pdf ("*Utah Telecommunication Open Infrastructure Agency, Financial Statements – June 2012*"). More recent numbers are difficult to come by, but the Salt Lake Tribune puts the number below 10,000. *See* Tony Semerad, *UTOPIA: Fiber-optic Nirvana or a Nightmare with No Way Out?*, Dec. 3, 2012, Salt Lake Tribune, *available at* http://www.sltrib.com/sltrib/news/55284692-78/utopia-network-fiber-west.html.csp.

57 *Utah Telecommunication Open Infrastructure Agency, Financial Statements – June 2012* at p. 16.

58 *See A Performance Audit of the Utah Telecommunication Open Infrastructure Agency*, at p. i, Report to the Utah Legislature, No. 2012-08 (Aug. 2012), *available at* http://le.utah.gov/audit/12_08rpt.pdf ("*UTOPIA Audit*").

59 This figure reflects amounts owed to pledging members. *See Utah Telecommunication Open Infrastructure Agency, Financial Statements – June 2012* at p. 19.

60 This figure includes: (1) $21 million from the U.S. Rural Utility Services and (2) $16.2 million in federal stimulus funds. *See UTOPIA Audit*, at p. 7. *See also* Cathy McKitrick, *UTOPIA in Layton and Centerville Grows through Federal Funds*, Aug. 3, 2011, Salt Lake Tribune, *available at* http://www.sltrib.com/sltrib/news/52290138-78/utopia-centerville-layton-fiber.html.csp.

61 It should be noted that $6.5 million of UTOPIA's revenues stem directly from federal stimulus grants. *Utah Telecommunication Open Infrastructure Agency, Financial Statements – June 2012* at pp. 4, 9.

62 *Id.* at p. 9.

63 *Id.* at p. 22.

64 *See Utilities Commission Meeting Minutes*, at p. 11, Nov. 23, 2004, City of Groton, *available at* http://www.cityofgroton.com/docs/minutes/ucommission/2004/ucommission11-23-04.pdf.

65 When contacted by phone, a representative of TVC stated that this information is confidential.

66 *Id.*

67 *See* Deborah Straszheim, *How A Promising Idea Went Terribly Wrong In Groton*, Jan. 6, 2013, Groton Patch, *available at* http://groton.patch.com/groups/politics-and-elections/p/how-a-promising-idea-went-horribly-wrong-in-groton

68 *Id.*

69 The number has not been disclosed by city officials. *See* Vince Horiuchi, *Provo Will be 3rd U.S. Metro Area to Get Speedy Google Fiber*, April 17, 2013, Salt Lake Tribune, *available at* http://www.sltrib.com/sltrib/money/56168330-79/google-provo-network-fiber.html.csp ("Although the backbone of the network is built out to the entire city, wiring from the curb to homes and apartments is completed only in about a third of the city's 35,000 homes, [Provo Mayor John] Curtis said. He would not say how many paying subscribers iProvo has.").

70 The location – and presumably the amount – of fiber used to build the network are currently unknown. The city hired an engineering firm to determine exactly where the fiber-optic cables are buried – a condition of the sale of the system to Google. *See* Vince Horiuchi, *Council Approves iProvo Sale to Google*, April 24, 2013, Salt Lake Tribune, *available at* http://archive.sltrib.com/article.php?id-26443832&itype=storyID.

71 *See City of Provo, Utah, $39,500,000 Sales Tax Revenue Bond, Series 2004 Taxable*, at p. 17, Electronic Municipal Market Access, Municipal Securities Rulemaking Board (Feb. 24, 2004), *available at* http://emma.msrb.org/MS217839-MS193147-MD374970.pdf ("*Provo $39,500,000 Sales Tax Revenue Bond, Series 2004*").

72 *See* Tad Walch, *IProvo Debt to Require City Help*, Feb. 22, 2006, Deseret News, *available at*, http://www.deseretnews.com/article/635186518/IProvo-debt-to-require-city-help.html?pg=all.

73 *See iProvo: A Requiem*, May 5, 2013, Utah Taxpayer's Association, *available at* http://www.utahtaxpayers.org/wp-content/uploads/2013/05/20-iProvo.pdf.

74 *See Continuing Disclosure Memorandum, Summary of Debt Structure and Financial Information, SEC Rule 15c2-12, For the City of Provo, Utah*, p. 122, Electronic Municipal Market Access, Municipal Securities Rulemaking Board (Dec. 19, 2012), *available at* http://Emma.msrb.org/EA492788-EA382935-EA779784.pdf.

75 *Id.*

76 *Id.* at p. 82.

77 *See* Press Release, *City of Wilson to Offer Gigabit Internet Service to Customers by July*, April 19, 2013, Greenlight NC, *available at* http://www.greenlightnc.com/gigabit_press_release.php.

78 *See Wilson, North Carolina, Certificates of Participation Series 2008*, Electronic Municipal Market Access, Municipal Securities Rulemaking Board (May 1, 2008), *available at* http://emma.msrb.org/MS273964-MS271292-MD541860.pdf ("*Wilson Certificates of Participation Series 2008*").

79 *See* Todd O'Boyle & Christopher Mitchell, *Carolina's Connected Community: Wilson Gives Greenlight to Fast Internet*, at p. 8, Common Cause and Institute for Local Self Reliance (Dec. 2012), *available at* http://www.ilsr.org/wp-content/uploads/2012/12/wilson-greenlight.pdf.

80 Email from Kim Hands, Wilson, NC, Director of Finance.

81 *Id.*

82 *Id.*

83 *Id.*

# Appendix II: State Laws Impacting GONs

| State | Overview |
|---|---|
| **Alabama** | Alabama requires a municipality to hold a public hearing and referendum (Ala. Code § 11-50B-1 et seq.) |
| **Arkansas** | A municipal government cannot offer broadband services unless the municipality already has an electricity or television service. If the municipal government offers either service, a public hearing must be held. (Ark. Code § 23-17-409) |
| **Colorado** | Municipalities must hold a referendum unless the area is unserved and incumbent ISPs have refused to provide the requested service. (Colo. Rev. Stat. Ann. § 29-27-201 et seq.) |
| **Florida** | Florida requires two public hearings, a feasibility plan, and a requirement that the network be self-sustaining within four years. (Fl. Stat. § 350.81) |
| **Louisiana** | The municipality must hold a public hearing. If the proposal is approved, the city must undertake a feasibility study in an effort to determine whether annual revenues will exceed annual costs by the amount necessary to cover debt payments. (Rev. Stat. Ann. § 45:884.41 et seq.) |
| **Michigan** | The municipal government must request a bid from private ISPs. The public entity then must submit a sealed bid to provide services. The public entity cannot go outside the municipality's boundaries. (Mich. Comp. Laws Ann. § 484.2252) |
| **Minnesota** | A municipality may only operate a telephone exchange or other facilities in support of communications services if they receive a 65% referendum vote. (Minn. Stat. Ann. § 237.19) |
| **Missouri** | A municipality cannot sell telecommunications service, but it can offer cable service after a referendum. (Mo. Rev. Stat. § 392.410(7)) |
| **Nebraska** | A municipal government cannot offer broadband services, but it can sell/lease dark fiber. (Neb. Rev. Stat. Ann. §§ 86-594; 86-575) |
| **Nevada** | Municipalities with populations over 25,000 or counties with more than 50,000 people may not offer broadband services. (Nev. Stat. §§ 268.086; 710.147) |
| **North Carolina** | The city must create a separate enterprise fund, publish independent annual reports, only operate within the city, and provide nondiscriminatory access to private ISPs. The network cannot be cross-subsidized and services cannot be sold below cost. (N.C. Stat. Ch. 160A, Article 16A) |
| **Pennsylvania** | A municipality cannot offer communications services unless the incumbent refuses. (66 Pa. Cons. Stat. Ann. § 3014(h)) |
| **South Carolina** | A GON may not receive any benefit that is not provided to non-government networks. GONs cannot be cross-subsidized and must be audited. (S.C. Code Ann. § 58-9-2600 et seq.) |
| **Tennessee** | Any utility that seeks to provide broadband must receive a resolution from the county's legislative body. The Comptroller must then report to the General Assembly and recommend whether to move forward. (Tenn. Code Ann. § 7-52-601 et seq.) |
| **Texas** | Municipalities are prohibited from offering broadband service. (TX Util. Code § 54.201 et seq.) |
| **Utah** | Municipalities can provide wholesale services, but in order to retail directly to consumers the network must undergo a feasibility study. (Utah Code Ann. § 10-18-201 et seq.) |
| **Virginia** | A municipality with a population of more than 30,000 may offer telecommunications services if the plan is approved by a governing board. The network must also abide by reporting requirements. (VA Code §§ 15.2-2108.6; 56-265.4:4;56-484.7:1) |
| **Washington** | Public utilities can only provide telecommunications on a wholesale basis. (Wash. Rev. Code Ann. § 54.16.330) |
| **Wisconsin** | Municipalities must hold a public hearing and draft a report on a proposed GON prior to a public hearing. This process does not apply if the private ISPs do not intend to provide services in the area. (Wis. Stat. Ann. § 66.0422) |

# About the Authors

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The ACLP's mission is to promote robust and solution-focused dialogues among state and federal policy makers, academe, service providers, the financial community, and consumers concerning changes to the state and federal legal, policy, and regulatory regimes. To do so, the ACLP has published papers and hosted an array of interdisciplinary public policy events on key public policy issues impacting stakeholders throughout the advanced communications space.

**Davidson** previously served as a Commissioner on the Florida Public Service Commission (PSC), the regulatory agency that oversees the state's telecommunications, energy, and water industries. His government work included serving as the Executive Director of Florida's Information Technology Task Force and as the Staff Director of the state's Committee on Information Technology. He previously served as a Special Professor at Hofstra University School of Law. His research interests include studying the antitrust implications of changing communications and utilities marketplaces, identifying necessary policy reforms to spur broadband connectivity across key demographics and sectors of the economy, and developing regulatory and policy reforms in the energy and water spaces. Davidson holds a Masters of Law in Trade Regulation from New York University, a Masters in International Business from Columbia University, and his B.A. and J.D. degrees from the University of Florida, where he served as a fellowship instructor at the College of Law.

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